Applicant: Oppermenn et al.

U.S.S.N.:

07/995,345 Filed: December 22, 1992

Page 2

Claims: In the

CM

22. (Twice amended) A protein, produced by expression of recombinant DNA in a host cell and isolated from said host cell [substantially free of other contaminating proteins], comprising a pair of polypeptide chains disulfide bonded to form a dimeric species, each of said pair of polypeptide chains having less than 200 amino acids in a sequence sufficiently duplicative of the sequence of [COP5 or COP7]:

20 30 1 10 40 COP5 LYVDFSDVGWDDWIVAPPGYQAFYCHGECPFPLAD 60 70 **HFNSTNHAVVOTLVNSVNSKIPKACCVPTELSA** 80 90 100 <u>ISMLYLDENEKVVLKNYQ</u>EMVVEGCGCR 1 10 20 30 COP7 LYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLAD 50 60 70

HLNSTNHAVVQTLVNSVNSKIPKACCVPTELSA

80 90 100 **ISMLYLDENEKVVLKNYQEMVVEGCGCR** 

such that said dimeric species has a conformation capable of inducing bone and cartilage formation when implanted in a mammal in association with a matrix.

In claim 85, line 1, after "comprising" insert --a pair of polypeptide chains disulfide bonded to form a dimeric species, at least one of said polypeptide chains comprising --- .